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VIA EMERY EXPRESS

May 5, 1989

MS. DONNA MC CARTNEY (3HW12)
Project Coordinator
U. S. Environmental Protection Agency
Region III
841 Chestnut Street
Philadelphia, PA 19107

Re: C&D Recycling Site

Enclosed for your approval are five (5) copies of Technical Memorandum No. 1 Additional On-Site and Off-Site Soil Sampling Plan for the C&D Recycling Site, Foster Township, Luzerne County, Pennsylvania, prepared by Fred C. Hart Associates, Inc.

Sincerely,

J.T. Chikowski

J.T. Chikowski
Senior Engineer

Enc.

AR303493

TECHNICAL MEMORANDUM NO. 1

Additional On-Site and Off-Site Soil Sampling Plan for the C&D Recycling Site Foster Township, Lurzerne County Pennsylvania

Prepared by:

Fred C. Hart Associates, Inc.
28 Madison Avenue Extension
Albany, New York 12203

1.0 INTRODUCTION

This Technical Memorandum No. 1 presents a plan for additional on-site and off-site sampling at the C&D Recycling Site. The overall rationale, location of sample collection points and type of laboratory analysis are summarized in the following sections. The procedures to be followed in collecting, handling, shipping and analyzing the samples are the same as those discussed in the approved Remedial Investigation Work Plan, C&D Recycling Site, Foster Township, Lurzerne County, February 12, 1988 and associated documents (Quality Assurance Project Plan, Data Management Plan and Health and Safety Plan).

This technical memorandum is based on a preliminary evaluation of analytical data for surface soils and sediment, recent data on wind direction and comments from PADER and EPA. This memorandum will serve as a reference document for those involved in the additional sampling, analysis and data validation.

2.0 PURPOSE

The purpose of the additional sampling specified in this memorandum is to provide data on various inorganic and organic constituents so that the areal and vertical extent of particular constituents can be adequately delineated. The locations of additional on-site and off-site samples are based on review of existing data. The following presents the specific aims of the additional on-site and off-site sampling effort.

2.1 On-Site Sampling

1. Determine the concentration of lead and copper in surficial soils at specific locations to ensure lateral delineation of these constituents.
2. Estimate the change in lead and copper concentration in soil with depth in areas where soil cover exceeds one foot in thickness.
3. Confirm the areal extent of any PCBs in on-site surficial soil. Existing data has indicated relatively low levels of PCBs (0.41 ppm) in surface soil and the proposed additional sampling is intended to laterally define the area where PCBs were detected.
4. Evaluate the leachability of lead and copper from the soil.
5. Further characterize soil composition at the site by analyzing one soil sample for Target Analyte List (TAL) organic parameters and Target Compound List (TCL) organic compounds and a second soil sample for TAL parameters.
6. Determine if Polynuclear Aromatic Hydorcarbon (PAH) compounds are present in the northern portion of the site and specific areas of the southern portion of the site which were previously untested.
7. Analyze ten percent of the surface and subsurface soil samples for TCL volatiles.
8. Collect two samples of ash for analyses of polychlorinated dibenzo-p-dioxins (PCDD's).

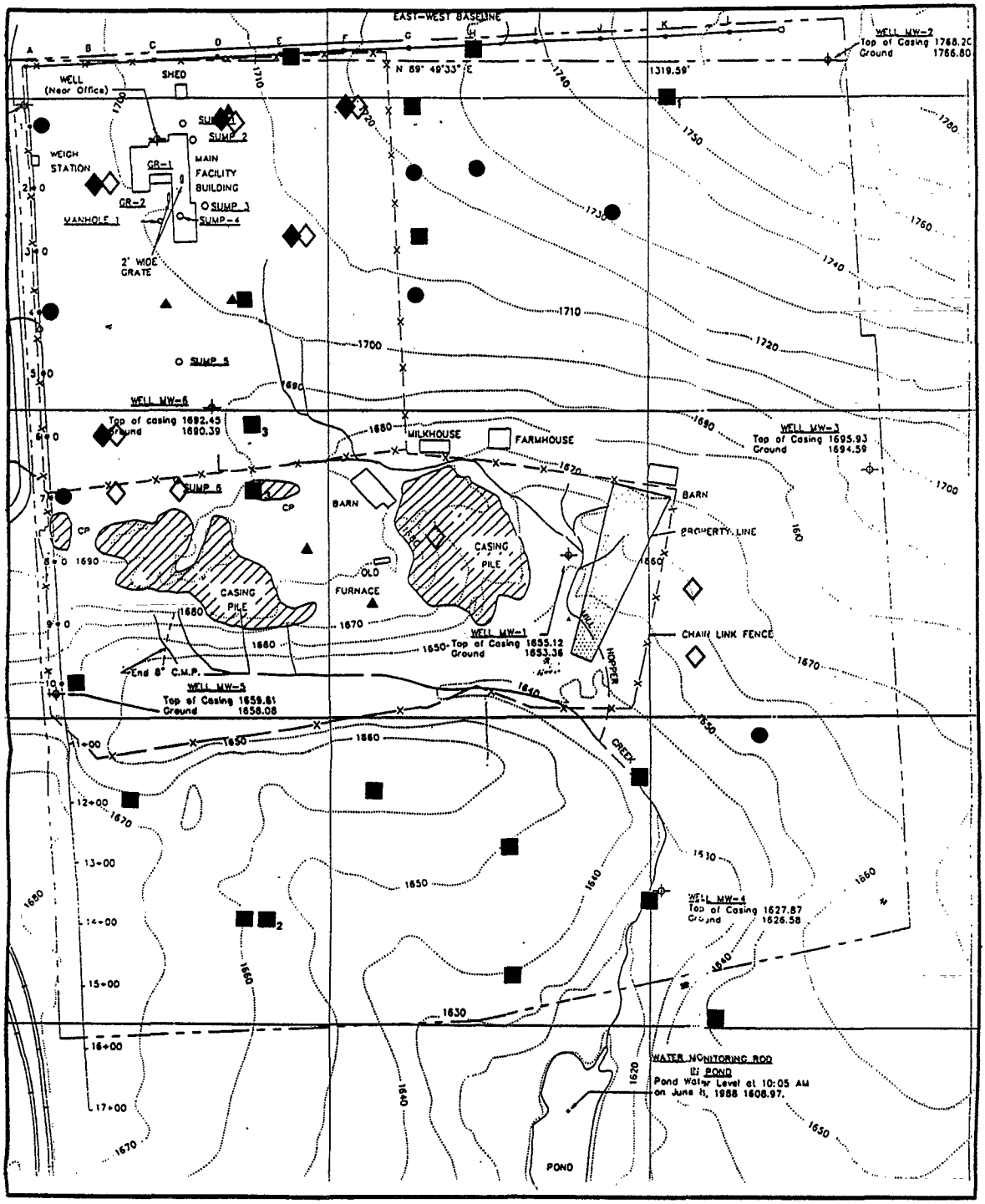
The soil sample locations are indicated in Figure 1 and are designated by coordinates within the established grid. Soil samples at depth are targeted to areas where the overburden is greater than one foot thick. This area is shown in Figure 2.

HART

2.2 Off-Site Sampling

1. Confirm the presence and extent of lead, copper and PCB in the field west of the site.
2. Determine the concentration of lead and copper in the drainage swale that borders the northwest portion of the site.
3. Determine if PCB is present on the shoulder of Brickyard Road.
4. Establish if Volatile Organic Compounds (VOC's) are present in the banks of the pond which is located south of the site.
5. Determine the concentration of lead and copper in sediment downstream of the pond which is located south of the site.

The location of the off-site samples is based on existing data and recent climatic data of prevailing wind for the period of 1983-1986. A revised wind rose, in addition to the off-site sample locations is provided in Figure 3. The locations of sediment samples within and downstream of the pond are approximate. The final locations will be selected in the field.



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0 100FT
SCALE

KEY

- SURFACE&1' DEEP;TOTAL LEAD & COPPER
- 1'& 3' DEEP: TOTAL LEAD & COPPER
- SURFACE;TOTAL LEAD & COPPER
- SURFACE COMPOSITE;EP TOXICITY,LEAD & COPPER
- $_1$ SURFACE TAL/TCL
- $_2$ SURFACE TAL
- $_3$ SURFACE PCB
- SURFACE PAH

FIGURE 1

ADDITIONAL SOIL SAMPLING ON-SITE

C&D RECYCLING SITE

FREELAND,PA. MARCH 1989

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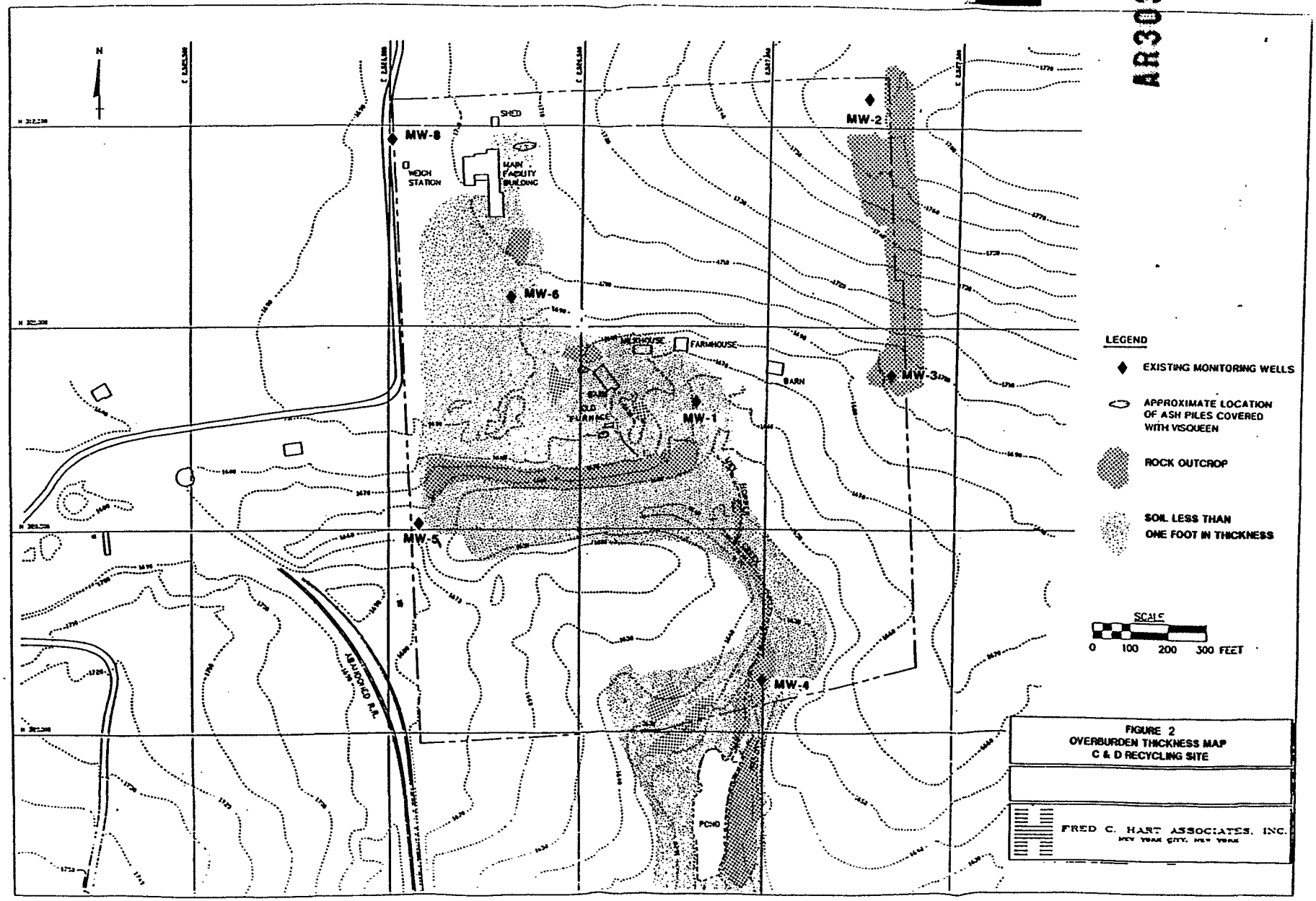

FIGURE 2
OVERBURDEN THICKNESS MAP
C & D RECYCLING SITE

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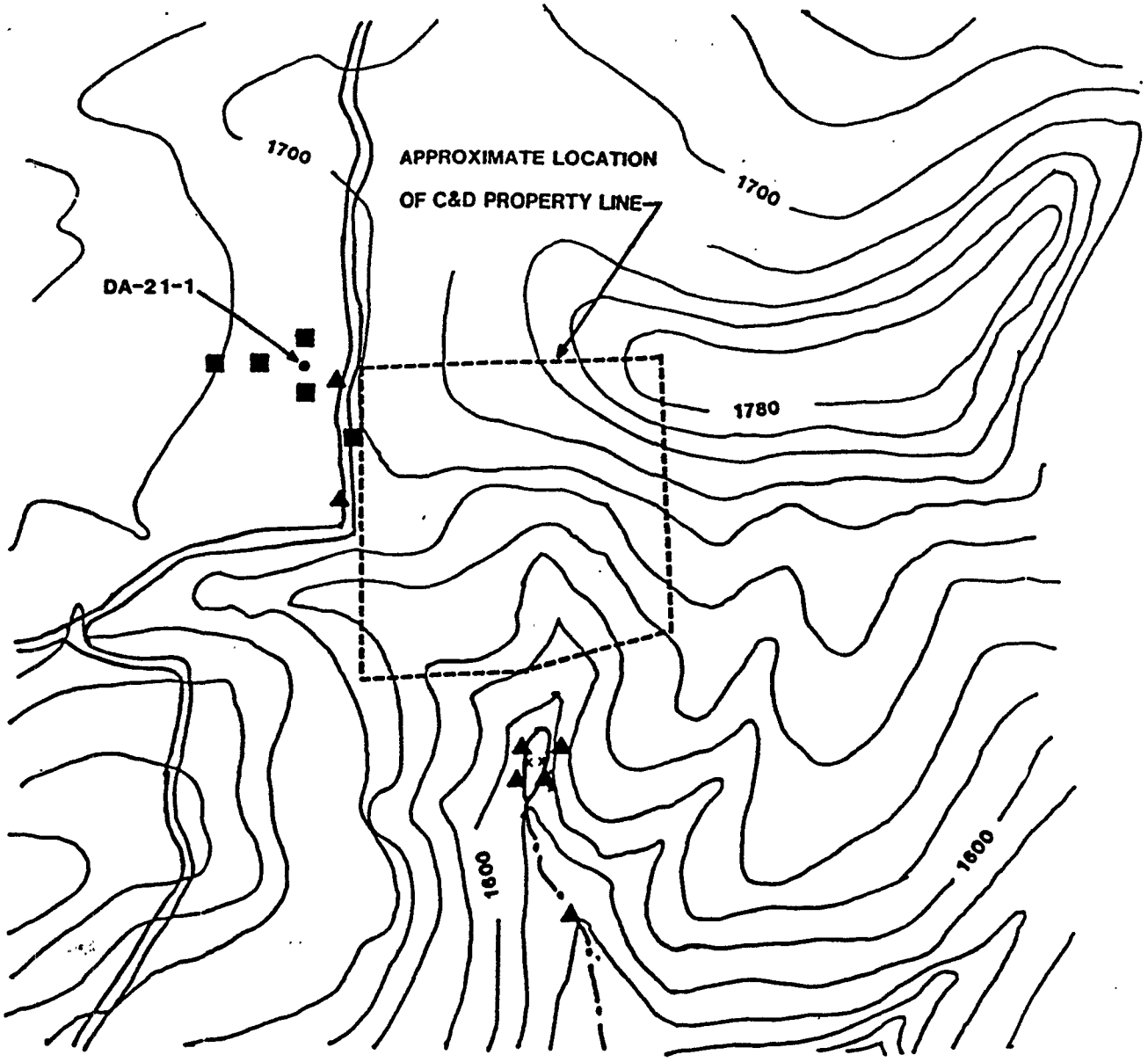
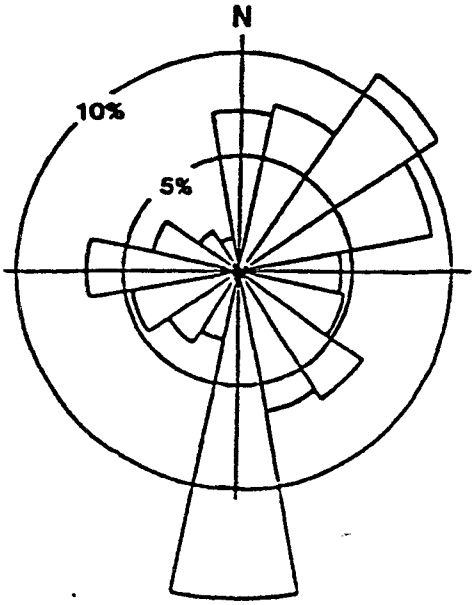
NEW YORK CITY, NEW YORK





DIRECTION WIND BLOWS TOWARD

(percent frequency based on data collected from 1983 to 1988)

FIGURE 3

WIND ROSE AND SUPPLEMENTAL OFF-SITE SAMPLE LOCATIONS

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HART

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3.0 APPROACH

HART technical staff involved in the initial soil sampling efforts will perform this additional sampling to assure consistency. The additional sampling and analyses will define the vertical and lateral soil and sediment composition at selected areas. The sampling of ash will also serve to evaluate the presence of PCDDs. The specific on-site and off-site approach is as follows:

3.1 On-Site Sampling

1. Obtain a total of 39 soil samples at 26 locations on-site for analysis for total lead and copper. Two samples (surface and one-foot deep) will be obtained at locations of thick soil cover not previously tested. One sample will be obtained at depths of one foot and three feet (or the bedrock surface, whichever is more shallow) at selected, previously-sampled locations. One surface sample will be collected at several new locations.
2. Obtain 2 soil samples for PCB analysis at locations adjacent to those where PCB has been detected.
3. Obtain one composite soil sample from several locations which previously tested high for total lead and copper. Analyze this sample for total and EP Toxicity lead and copper.
4. Obtain 10 soil samples at selected locations for PAH analysis to determine the surficial extent of PAH compounds.
5. Collect and analyze one surface sample for TCL/TAL parameters and one for TAL parameters to further characterize soils in the northern and southern extent of the site, respectively.
6. Obtain two representative samples of ash from existing on-site piles for PCDD's analysis.

3.2 Off-Site Sampling

1. Obtain four additional samples in the field west of the site; analyze for lead and PCB.
2. Obtain two samples from the drainage swale which marks the western border of the north portion of the site; analyze for lead and copper.
3. Obtain one sample from the shoulder of Brickyard Road; analyze for PCB.
4. Collect one sediment sample 600 feet downstream of the pond; analyze for lead and copper.
5. Sample each bank of the pond at one location; analyze these samples for TCL VOC's.

4.0 PROCEDURE

Samples will be collected according to the procedures described in the RI work plan. Subsurface samples will be obtained with a clean, stainless steel hand auger. Duplicates will be obtained at a rate of one per ten soil samples collected or one per sample trip, whichever results in the larger number of duplicates. These duplicates will be analyzed for the various parameters to be tested. Silica sand field blanks have not proven accurate and will not be collected. All samples will be analyzed by the contract laboratory, Compuchem, Inc. A summary of the specific sampling point designations follows:

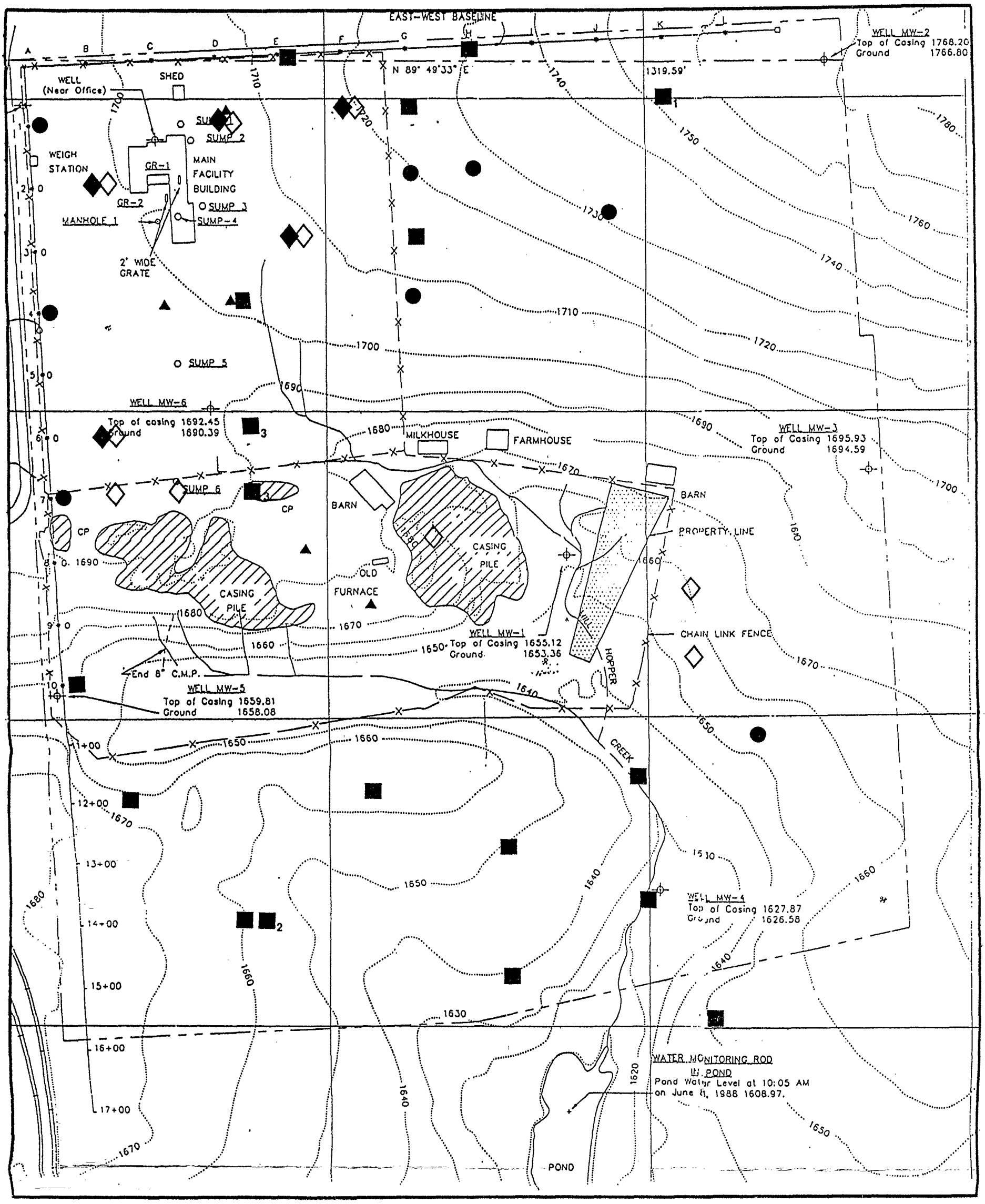
4.1 On-Site Sampling

No. Samples	Sample Locations	Sample Depth	Analyses
16	A+25, 100; A+25, 400; A+25, 700; G, 200; G, 400; H,200; J, 300; K+75, 1150.	surface; 1 foot deep	Total Lead Total Copper (2 For TCL Volatiles)
10	B, 200; B, 600; D, 100; E, 300; F, 100.	1 foot deep; 3 feet deep	Total Lead Total Copper (2 For TCL Volatiles)
13	A+25, 1000; B, 1200; D, 1400; E+25, 0; F, 1200; G, 100; G, 300; H, 0; H, 1300; H, 1500; J, 1200; J, 1400; K 1600	surface	Total Lead Total Copper (1 For TCL Volatiles)
1	C, 400; D, 100; D, 400; E, 800; F, 900.	surface composite	Total and EP Toxicity Lead and Copper
1	K, 100.	surface	TAL/TCL
1	D, 1400.	surface	TAL
10	B, 200; B, 600; B, 700; C, 700; D, 100; E, 300; F, 100; G, 800; K, 900; K, 1000.	surface	PAH
2	D, 600; D, 700.	surface	PCB (1 TCL Volatiles)
5	duplicates	duplicates	same as
2	Ash Piles (not shown in Fig. 1)	representative	PCDD's

4.2 Off-Site Sampling

No. Samples	Sample Locations	Sample Depth	Analyses
4	50 feet north and south of DA-21-1 and 100 and 200 feet west of DA-21-1.	surface	Total Lead, PCB
4	2 from each bank of pond.	surface	TCL VOC's
1	600 feet downstream of pond.	surface	Total Lead and Copper
2	Sediment samples from western drainage swale	surface	Total Lead and Copper
1	Shoulder of Brickyard Road	surface	PCB
1	Duplicate	duplicate	Total Lead, PCB

Upon completion of this additional sample collection and analysis, all analytical results will undergo QA/QC evaluation. Validated results will be used to contour surface concentrations, estimate depth and determine the extent of these constituents off-site. The resulting information will be incorported into the RI report.



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SCALE

KEY

- SURFACE&1' DEEP;TOTAL LEAD & COPPER
- 1'& 3' DEEP; TOTAL LEAD & COPPER
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- SURFACE COMPOSITE;EP TOXICITY,LEAD & COPPER
- $_1$ SURFACE TAL/TCL
- $_2$ SURFACE TAL
- $_3$ SURFACE PCB
- SURFACE PAH

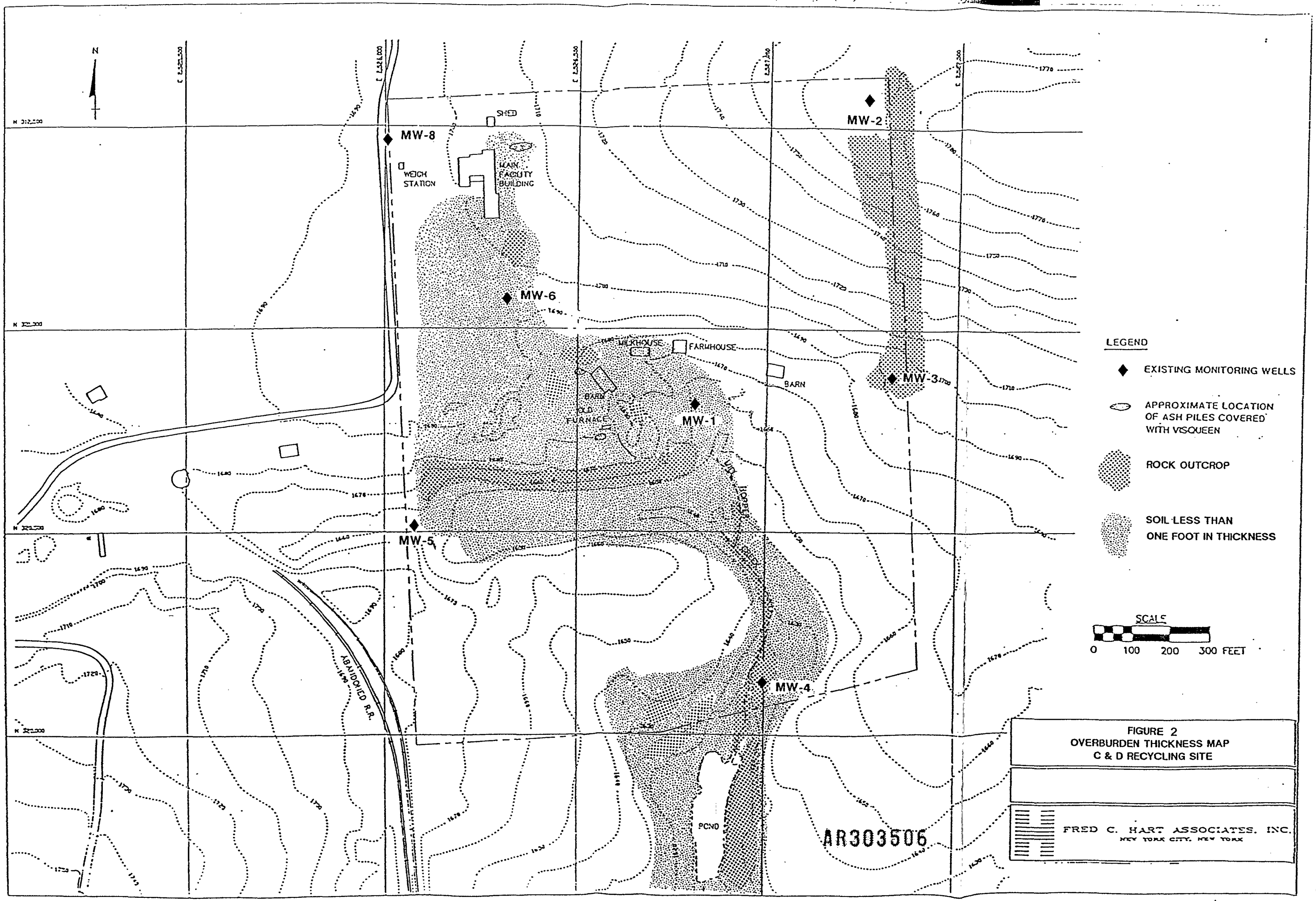
FIGURE 1

ADDITIONAL SOIL SAMPLING
ON-SITE

C&D RECYCLING SITE

FREELAND,PA. MARCH 1989

FRED C. HART ASSOCIATES, INC.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MW-8
MW-2
MW-6
MW-3
MW-1
MW-5
MW-4
SHED
WEIGH STATION
MAIN FACULTY BUILDING
MILKHOUSE
FARMHOUSE
BARN
BARN
OLD FURNACE
BARN
HOPPER
ABANDONED R.R.
POND
LEGEND
EXISTING MONITORING WELLS
APPROXIMATE LOCATION OF ASH PILES COVERED WITH VISQUEEN
ROCK OUTCROP
SOIL LESS THAN ONE FOOT IN THICKNESS
SCALE
0 100 200 300 FEET
FIGURE 2
OVERBURDEN THICKNESS MAP
C & D RECYCLING SITE
FRED C. HART ASSOCIATES, INC.
NEW YORK CITY, NEW YORK
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